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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,818	12/12/2003	Jong-yoon Kim	1793.1084	8838

21171 7590 08/11/2005

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EXAMINER

MERCEDES, DISMERY E

ART UNIT	PAPER NUMBER
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2651

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/733,818

Applicant(s)

KIM ET AL.

Examiner

Dismery E. Mercedes

Art Unit

2651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 17-25 is/are pending in the application.
- 4a) Of the above claim(s) 12-16,26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 7, 9-11, 17-20, 24 and 25 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 8 and 21-23 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/5/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Species I (Claims 1-11, 17-25) in the reply filed on 07/05/2005 is acknowledged.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 7/5/2005 and 12/12/2003 have been considered by the examiner.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1-3,6,7,9-11,17-20,24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madsen et al. (US 5, 600,500), hereinafter, Madsen, in view of Fujiwara et al., hereinafter, Fujiwara (US 6,914,738 B2).

Madsen et al. discloses a method of optimizing a recording current, comprising: selecting a recording parameter value corresponding to a smallest rate of errors; and optimizing the recording current for the hard disk drive under operating environmental conditions using the selected recording parameter value (as depicted in Fig.3 & abstract & col.4, lines 14-27, col.8, lines 40-55).

Madsen fails to particularly disclose measuring a rate of errors under a test condition

Art Unit: 2651

corresponding to an operating temperature of a hard disk drive, while changing a recording parameter. However, Fujiwara discloses such (col.1, lines 52-62, col.8, lines 50-57). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify upon Madsen's method by implementing a step such as disclosed by Fujiwara, the motivation being because it would provide Madsen's method with the enhanced capability of setting an optimum current by taking into consideration parameters that are dependent upon the environment in which the magnetic disk unit is used, such as temperature (as taught by Fujiwara col.1, lines 25-27, 57-62).

As to Claim 2-3, the combination further discloses wherein when the test condition corresponds to a low temperature and room temperature (as depicted in Fig.3 of Fujiwara, note Fujiwara adjusts the temperature to a desired level), data is recorded on a target track a predetermined number of times, and the data is read from the target track a predetermined number of times (as depicted in Fig.3, "82" of Madsen).

As to Claim 6, Fujiwara further discloses, wherein the recording parameter is an overshoot current (OSC) (abstract).

As to Claim 7 & 9, Madsen further discloses a graph illustrating the recording parameter versus rate of errors (as depicted in Figs. 5-9), where the rate error is one of a bit error rate (BER).

As to Claim 10, Fujiwara further discloses wherein the method is performed for at least one recording head and at least one data zone of a disk of the hard disk drive (as depicted in Figs.14, 18-19).

As to Claim 11, Madsen further discloses wherein the selected recording parameter values are recorded on a system cylinder of the disk of the hard disk drive (as depicted in Fig.1).

As to Claims 17-20, 24-25 have limitations similar to those treated in the above rejections, and are met by the references as discussed above.

Allowable Subject Matter

5. Claims 4-5,8,21-23 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Takahashi (US 6,101,053); Lee et al. (US 2003/0112541); Kassab (US 5,687,036); Chung (US 6,069,758), Sloan et al. (US 6,252,731 B1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dismery E. Mercedes whose telephone number is 571-272-7558. The examiner can normally be reached on Monday - Friday, from 9:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

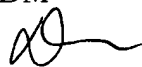
Art Unit 2651

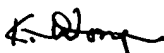
Dismery E Mercedes

Examiner

Art Unit 2651

DM

A handwritten signature, possibly reading "DM", in black ink.


P. E.
for SPE D. Hudspeth